IN THE DARC

http://www.w5fc.org Randy Patterson, KE5JIT, Editor October 2011

IN THIS ISSUE:

From Dallas Morning News 9/25/11
B. Griffith
Griffith, B Whitfield B Whitfield Griffith, "Whit" age 94. He is preceded in death by Anne Griffith, wife of 58 years and son Richard Griffith. Whit is survived by wife Joan Griffith, daughter Nancy Griffith Mercer and husband Jack, grandchildren Alisa Griffith Henderson, Rebecca Griffith Day, Cindy Rosser and Steven Puckett and great grandchildren Emily Henderson, Abigail Henderson, Erin French, Madison Rosser and Jaden Puckett. He is also survived by four step children and eight step grandchildren. Whit was a graduate of MIT and an active ham radio operator for eighty years (N5SU). In lieu of flowers, donations can be made to the Whit and Anne Griffith fund, Dallas Amateur Radio Club, PO Box 744266, Dallas, TX 75374. Services will be held Monday, September 26, 2011 at 10am at Wildwood Chapel.

N5SU Whit Griffith - SK

B. Whitfield Griffith, Jr. the beloved Grand Old Timer of the DARC passed away Thursday, September 22, 2011. He had been one of the strongest supporters of the DARC for more than 60 years, and a practitioner of the radio art for 80. In recent years his body became increasingly frail, even though his mind was as analytic as ever. He attended only a few DARC meetings in the last 2 or 3 years, so many current members did not get to meet him.

If you have ever come to DARC Field Days, you may have helped raise the clubs "secret weapon" the 60-foot 80 meter vertical he designed for us.

You may have heard of the Whit and Anne Griffith Community Service Award. Whit set up that endowment to provide annual awards for outstanding public service and to honor the

first love of his life, Anne W5NHI, his wife of 58 years.

He was 22 years old in 1939 when he wrote his first QST article. 100 Watts on 2.5 meters with the new Raytheon triodes. Send comments to B. W. Griffith, MIT dormitory, Cambridge, Mass. He was excited by the "ultra high's" – anything over 30 MHz. He encouraged a lot of hams in the Boston area to experiment with 2.5 meters.

At MIT he ran a beacon/freq standard on 112.1 MC to help hams around Boston stay legal.

He met the first love of his life through ham radio. A ham friend introduced Whit to his sister Anne who became his wife of 58 years. Anne, like Whit, spoke grammatically perfect Boston English. His native Mississippi accent may have been sacrificed on the altar of love by the time I met him. He always spoke with the forethought, precision, and clarity of a college professor.

From MIT they went to Waseca, MN. There at E.F. Johnson Whit started out installing antennas which required a lot of pole climbing. But during the Great Depression even an MIT graduate was thankful to have a job. Pole climbing was hard and dangerous work especially in the bitter cold of a Minnesota winter. The young engineer's creativity and keen ability was soon discovered, so Whit went from outdoor work to designing transmitters and matching networks. He must have moved to Dallas by 1947, because in his May 1952 QST article "The Truth About the Vertical Antenna" he says the antenna has withstood 5 years of Texas weather. That classic article is required reading for anyone who wants to really understand ground-mounted vertical antennas.

His 1962 book Radio-Electronic Transmission Principles was written while he was Director of Advanced Development at General Electrodynamics in Garland. He wrote that book to fill the gap between the serious ham's understanding of radio phenomena and that of the professional engineer. I love that book and cannot say enough about how much it can expand the ham's knowledge of radio.

Whit later worked as a senior engineer for Continental Electronics in Dallas. He designed, built and installed transmitters and antenna systems of 1 MW and more. He traveled the world supervising installation of transmitters and construction of antennas. This was mostly outdoor work too, but easier than climbing poles in Minnesota year round. I think his favorite install was the 1 MW VLF transmitter at Cutler, ME. He presented an impressive slide show on that install.

As a Registered Professional Engineer he obliged himself to use more reserve and caution than any other ham I have known. We needed an antenna tuner to load the "secret weapon" on 160 meters. I volunteered my tuner and told him I was sure it would load it. Whit wasn't so sure. To satisfy himself that it would work he took off the covers and measured the diameter and number of turns on the roller coils. He calculated the inductance range of each coil. Then he drew out the schematic of the network, and then computed the matching range and efficiency of the tuner feeding the measured base impedance of the "secret weapon." Finally he did the network math and calculated the "Q" of the coils to determine the efficiency. He put his pencil down and said, "Yes, it will do the job."

Whit would have made a wonderful teacher or professor. He was a master of higher engineering math but could explain almost any radio concept in simple terms. Radio-Electronic Transmission Fundamentals avoids use of calculus to the maximum extent. Instead he presents graphs and geometrical figures to convey the understanding of higher mathematics in practical applications. That's another plug for his book – available from Amazon and from the ARRL bookstore.

Whit was always available with helpful advice to the beginner and extra alike. He taught classes for the DARC on antenna design and

installation and also on design of the Class-B linear amplifier.

Although that class was over 20 years ago, I still remember the thrill I felt when he started the course in German with a quote from Goethe about the eternal forces of nature and the newly awakened, grasping spirit of man. Here was a man born early in the 20th century, but with a 19th or even an 18th century man's desire not only to learn the latest technical information, but to see clearly into the past, to understand and appreciate what had been done before, and who had done it. He felt a personal debt to the early searchers like Volta, Faraday and Maxwell. To Whit, engineering was more than just measurements and numbers; it was an ongoing human adventure.

Maybe the first paragraph of his book will give you an idea of the scope of his understanding and the way he viewed human progress:

Deep in the veiled fastness of forgotten time lies buried the beginning of man's knowledge of electricity and of its companion, magnetism. No one can say who first "discovered" the effects of these phenomena, for some of their results must have been observed from the earliest ages of human understanding. The lofty splendor of the northern lights, the terrifying violence of lightning, the intimate and seemingly magical sparks which resulted when the family cat was stroked on a wintry day must have awed and mystified our prehistoric forebears, perhaps instilling in their minds and heritage the qualities which made them wonder, which led them to the concept of powers greater than the club and spear, which caused them to ask the burning question, "Why?"

After his beloved Anne died Whit set up the Whit and Anne Griffith community service award to honor her memory. It is a perpetual endowment providing annual recognition for outstanding public service by a DARC member. For a long while after Anne's passing Whit seemed deeply depressed. Her loss was a devastating blow, and it's effect was apparent. We were concerned about his health and the toll on his spirits. But that burden was lifted by Joan, a family friend that Whit and Anne had known for years. Joan had lost her husband, and was going through her own time of mourning. Joan's vivacious spirit and warm outgoing personality brought back Whit's optimism and joy of life. When they married we all rejoiced that Whit's dark days had ended.

Whit believed in people and in amateur radio. He was a generous contributor to the DARC and a strong supporter of the ARRL. The DARC and the amateur community have been most fortunate to have Whit as a kind friend and wise mentor. Whit, we shall not forget you. 73, N5SU

Don Murray W9VE

THE WHIT AND ANNE GRIFFITH COMMUNITY SERVICE AWARD

1. As defined in Article II, Section 1, the Club is a community service organization, charged with serving the public through provision of educational and support services at no charge to the public.
2. Amateur radio operators, in general, and members of the Club, specifically, give their time, talents and use of facilities to provide for the safety and quality of life experienced by people of the greater Dallas area. While remuneration of amateur radio operators is strictly prohibited by the Federal Communications Commission, recognition of an operator who sets an exemplary model of community service is both appropriate and within the scope of the Club.

The Anne and Whit Griffith Service Award was established in 1999. The first recipients of this award were none other than Anne and Whit Griffith.

The following have also been privileged to be recipients of the Anne and Whit Griffith award: Jim Galloway N5MDI, Jim Haynie W5JBP, Bob McSwann W5NYM, Carolyn McSwann W5NYL, Sanlyn Kent KD5LXO, Richard Aguilar K5LXM, Dave Best KD5RYM, Don Murray W9VE, Scott Drummond KE5DKV, Tom General KE5ICX and Randy Patterson KE5JIT.

by: K5SN John Cotton

Whit Griffith was a REAL radio engineer. His textbook, Radio-Electronic Transmission Fundamentals, Is well-known. I am very happy to have an autographed copy. I had the pleasure of collaborating with Whit to build the club's 75 meter vertical antenna - the BIG one.

We had kludged up an earlier version for one Field Day; it consisted of 50 or 60 feet of Rohn 25 plus a piece of aluminum tubing hose-clamped to the tower. We'd have it laid out on the ground on Flagpole Hill with the bottom right next to an insulating base Whit had built. The thing was so heavy we towed it upright with a car, then lifted it up and plunked it onto the base. Guy ropes held it up. The thing worked so well we couldn't believe it. Whit did - he knew how well it was going to work. Its feedpoint impedance was 40 ohms pure resistive. It was a real 1/4 wave vertical. The 16 radials helped.

We decided to build something that was a bit easier to deal with. Whit and I decided to do it. We met at his house and laid out the scheme. We'd use an aluminum stick on a base insulator and connected to a matching network; the stick was planned to be 3/8 wave long to make it more manageable. Whit then dug in his junk bin and found that magnificent insulator and I went to Texas Towers and procured the aluminum tubing for the stick. When we got together again, I had the stick assembled and Whit had built the base.

We had to fit the antenna onto the insulator, whch was a VERY tight fit. We cut a piece of the largest tubing, slit the end, then cooked it in the gas flame of the kitchen range. When it was plenty hot we jammed it onto the insulator and let it cool. It was not going to come off easily!

Whit came up with the trophy we mount on the top - the brass toilet float. Keeps the corona discharge down. Also gets questions from people coming by. Yes - that's what you think it is!

When we first tried it at Field Day it worked as intended.

Whit would come out to FD and supervise putting the thing up. I know he enjoyed the fact that it worked as well as it did/does.

We are not likely to meet anyone like Whit again. He was a real giant of radio. I will miss him.

John Cotton K5SN

Whit was certainly an exemplary Amateur Op , a top notch engineer, and a true gentleman. He used to live very close to us, and we had quite a few QSO's on 30 and 40 meter CW. I still pass by his old house near White Rock Lake almost every single day, and he was always in my thoughts. May God bless him, and condolences to his family and friends. 73, OM... vy 73...

Megan

Whit was around at the start of it all. I very much enjoyed hearing of his experiences.

Joe Isabella

Sorry to hear of this. He was a true gentleman and one of the best minds in the area of antennas. I think I have a number of DARC newletters with articles on antennas he wrote...they should be republished....always good information.

Maury Guzick

I've only met him once or twice but I could tell that he had been a heck of a ham and elmer. It has been my experience that every radio club I have been in has a patriarch, one who, in his later age doesn't get out as much but still holds the respect and admiration of the members, old and new. Whit was our patriarch and he will be missed.

Bill Cahill

If you missed the Whit Griffith Memorial Net on Sunday, 09/25/2011, you can still listen to it via audio from our archive. The link is below:

http://www.archive.org/details/DarcMemorialNetForWhitGriffithN5su9-25-11

October Program

Remote Control Radio by Dave Dunbar, N0RQ, from Melissa, Texas, will be sharing his experiences with Radio Remote Control. Will Rogers said, "If you've done it, it ain't bragging." Dave has done radio remote control successfully (with the remote located in South Dakota) and will tell us how he did it along with tips for success and pitfalls to avoid. Dave is originally from South Dakota and became a HAM at the age of 16. He is married and the father of seven children. He and his family reside in Melissa.

This will be an interesting presentation by one who has been there - don't miss it!

President's Corner

By Tom General, KE5ICX

"That Used to Be Us!"

I've been listening to an audio book on my many long travels for work. Most of my travel days start early in the morning and end several hours later, lending audio books as a perfect traveling companion. This month, I'm listening to the national best seller "That Used to Be Us" by Thomas Freedman and Michael Mandelbaum. It's a book which tries to explain where the United States is in a global economy, and speculates as to how we can compete in the 21st Century. They analyze the four challenges they claim we face: "globalization, the revolution in information technology, the

nation's chronic deficits, and our pattern of excessive energy consumption" and they spell out what we need to do now to sustain the American dream and preserve American leadership in the world.

Several points emerge from the author's ruminations which, I think, as ham radio operators, can do to help "keep America strong" for the present and future workforce.

The Challenge

The first major challenge: Education. Yes, politicians always cite "our underperforming schools" as the single point of failure, usually in their stump speeches. Of course that's designed to "grab your attention" and your vote during elections. However, beyond "standardized tests", "voucher systems", and "merit increases for teachers" politicians are "short" on details. There's little insight into the "how's and why's" we aren't educating our next generation of workers. Freedmand and Mandelbaum flatly state what is missing from the equation. Most jobs of the 21st century require more than just a "functional education" (reading, writing, and math) to even perform the most basic jobs. If America is to compete, we, as a nation, will need to make changes in what we do to educate our workforce in ways accomplished in Finland, China, and Singapore. These countries expect (really demand) high school graduates to function with highly proficient math skills, effective decision making, and effective communication skills. They also must be fully capable of entering higher level learning institutions with fully articulated skills – no remedial classes required. It's the "three R's" on steroids. One only has to look at our laptop computers – or even our increasingly complex radios and realize there's a huge technological revolution going on every minute of every day and we have to "step up" to the challenge and quickly or we'll be left far behind.

The second major challenge: Leadership. Workforce defined that's the ability to function either within a team or as an individual. People will be tasked with providing some sort of coherent, confident, and accurate feedback to their managers and strategic business units. Standard entry-level "assembly jobs" are giving way to a more astute worker who monitors processes, analyses performance, and suggests changes and improvements to the current system.

Why is this important? Because that's what's required of those "off shore" assembly jobs. Those who do not require responsive, smart workers will suffer from inefficiencies and be "left in the dust" by being incapable of change. That could become us – and – even those "off shore" jobs where the workers cannot evolve or improve.

The Club's Mission

So where do we, the DARC and ham radio, fit in? This is easy. We were recently visited by Captain Jack Bragg of the Dallas Police Department. He approached us to assist them in their communications and public service needs. Bragg realizes the skill set amateur radios operators have and told us that during Field Day, "You guys understand the technology and the importance of communications more than any other civilian. We need that expertise." And he is right. We DO understand technology and many of us are early adopters of technology, we know our way around electrical circuits, we also rise to technological challenges, routinely involve ourselves in communications (emergency and non-emergency), and, for many of us in the workforce, possess highly technical jobs. This may have been "the elite" a few years ago, it is now the minimum requirement for a future, successful worker in the United States. That leaves us with a very important role to perform. Mentoring future generations explaining the importance of both technology AND leadership. The two skills our authors cited above. We hams, by our very nature, are the people who can impress the next generation of Texans and by extension, Americans, to challenge themselves technically and help in the production of future leaders.

A few folks have wondered why we are re-engaging the Boy Scouts and Calumet. The answer is simple: we can give these impressionable kids their first authentic exposure to the technical world they will live in. We provide the face and the enthusiasm to fire them up. Obviously, we want them to adopt our passion for radio, just as it affected many of us when we were their age. And for many of us, it affected just what we ended up doing in the American workforce.

Look Back, Look Forward

Think back to when you were a young kid. Hopefully a mentor/Elmer helped "kickstart" your interest in radio and electronics. Or, perhaps, as was the case for me, being in my 50's now, I was inspired by America's race to the moon. Such initiatives were solidified and reinforced by the "Sputnik" moment, where true world threats by the Soviets space initiatives scared Americans into realizing they were falling behind in technology and the dreaded "Cold War". It served as a wake-up call and united us from 1958 to 1970 towards being the leading technological nation. No one else has sent men to the moon (for now). Our sheer "force of will", united with a common goal, beat the Russians to the moon.

After we won the space race we were no longer challenged in such a direct way. Instead, over the coming years, countries developed out of World War II chaos actively sought the same successful " American dream", punctuated with their cultural "accent". What has resulted is many countries vaulting over our past achievements and forging new technologies, all the while we've not adapted to increased competition from a world that looks more like us than ever before, competing in those areas we excelled at for 40+ years, with the potential to "beat us at our own game".

Because of that our job as mentors/Elmers is to inspire and motivate the next generation of American's to "go the distance" and embrace technology, consider it central and a key enabler for good paying jobs, and realize a tremendously satisfying career embracing that technology. Also, our hobby provides interesting challenges uniquely suited for a club, such as the DARC.

Call to Action

I was at the Kansas Cosmosphere in Hutchinson, KS last week. This space museum has many displays – most from the 1960's and the space race. As part of their display have an extended video of John Kennedy's "moon speech" which he gave at Rice University. We all know the most famous part of that speech, it was several paragraphs later which made me think. This is the quote: *"But if I were to say, my fellow citizens, that we shall send to the moon, 240,000 miles away from the control station in Houston, a giant rocket more than 300 feet tall, the length of this football field, made of new metal alloys, some of which have not yet been invented, capable of standing heat and stresses several times more than have ever been experienced, fitted together with a precision better than the finest watch, carrying all the equipment needed for propulsion, guidance, control, communications, food and survival, on an untried mission, to an unknown celestial body, and then return it safely to earth"*

The United States had exactly one, accomplished, 15 minute sub-orbital spaceflight. Two weeks later – we were setting our sights on the moon.

Inventing the Future

Kennedy's comments stuck in my mind when he stated the goal was not only an ambitious mission, but a public call for American industry to create the "metal alloys, some of which have not yet been invented", a looming/ominous challenge without unknown outcomes. However Kennedy never said "if" - it was "when" - to which he put the famous endpoint of no later than 1969. That really brought home the confidence and might of America in the 1960's. The same could be said about our potential "human resources", "the knowledge

and capabilities that haven't been invented yet" today. You cannot "outsource" that capability, not if you keep expanding that skill set – ahead of your competition – with the intent of keeping the U.S. the world's technological leader. Perhaps confidence in ourselves is in order.

Let's scale this to a DARC perspective. We can work together to hone our own skills in the two critical categories. Many projects we decided upon this year were based, in part, on challenging membership of all skill levels. Some folks were pushed into antenna building, understanding their radios, learning new computer skills, and working together on technically complex tasks. Gosh, those are things the authors of "That Used to be Us" harp on throughout their book.

Making a Difference

We can, and should, make a difference. Not just for the next generation as I've been describing, but for ourselves as well. If you've used "LinkedIn" or "Facebook" you may noticed various club members post their club office and volunteer affiliations on their electronic resumes. There's a reason for that. Simply put, your volunteer efforts and demonstrative results from those efforts are keen fodder for a future job. Volunteer work is not only looked at favorably on resumes by companies, but those activities act as a viable training ground for future positions with a current or future employer. People who take on a challenge and are successful in a volunteer capacity will, most likely, also be successful in the business place.

So club activities can serve as a springboard to a new or better job – IF you make the effort and volunteer – lending your talents and expertise – which has the added benefit of helping the club! When I ask for your support on a project, I'm asking you to help us out – but I'm also asking you help yourself out as well. Over the past two years, you've seen several club members take on positions, they themselves said they were not comfortable with, but acquiesced to my pleading and signed up. I asked them specifically because I was confident they would step up and perform well in that position. So far, I've been proven right. I'd relish the idea of people volunteering themselves for a new, personal challenge too!

Here's some simple generic examples to ponder:

Shy? How about a net-control position?
New to electronics? Step right up – we're going to teach you how to use a soldering iron.
"I can't lead." Here - we need you to head this project and report on progress every month.

We still "learn by doing" and your participation breaks the "station keeping" cycle in your own career while allowing the club's use of your emerging and already evolved talents. You might be surprised at what you are capabile of.

You may also have a great idea about a direction the club should take, or something you feel is missing from amateur radio. You are right, it IS missing from amateur radio. Perhaps that's your queue to let yourself and others in a new and exciting direction. How else will know, unless you try? Speak up at a meeting and say "This is a good idea!" BUT be prepared, you are the best, most logical person to take on that project or goal. Volunteer yourself! If you do, I can guarantee we can get 2 or 3 other people to help you out!

"What Would Whit Do?"

In closing, as you all know, Whit Griffith N5SU, became a Silent Key this past month. His intellect was unsurpassed and his devotion to his hobby unmatched. Whit constantly challenged himself and he motivated others to do the same. Even at 94 years old, you could count on Whit coming to Field Day and helping erect the 60 foot tall 80 meter vertical antenna called the "DARC secret weapon" the antenna he designed and built. At his memorial service his granddaughter told us many stories of his adventures, how he cared about science, electronics, and amateur radio. He was a "Renaissance man" with wonderful clarity and

a passion for living. He is an example we can all follow. We may not be the genius he was, but we can aspire to be one, and help others who potentially CAN be the next Whit – the next genius, Elmer, friend, and proponent of our hobby.

The "secret to our success" as Americans is to pitch in and do things together. Our petty politics are just that; "petty". Our abilities and our love for our hobby and our fellow man can transcend the silliness we see elsewhere. We can, should, and will be much better than that. I'd like to challenge you to rise to the challenge. Help this next generation of hams. Help yourself. And enjoy life. Perhaps you'll live to 94 as a reward for your generosity. Perhaps the people you helped will come and share stories about what you did for our hobby and for our nation!

Whit Griffith N5SU

I never got to know Whit all that well. I came into the club and only got to know this fine gentleman when he came to "Old Timers" night and told one or more of his famous stories about his time.

The DARC lost a true legend this past month when Whit Griffith, N5SU became a silent key.

LifeWalk

We still need volunteers for this event! It is on Sunday afternoon, 2 October, Turtle Creek and Uptown Dallas. The walk starts in Lee Park.

Operators will be stationed as shadows, SAGS, and water stations. This is a widely supported event with many corporate sponsors and has many activities at the conclusion of the walk. This year LifeWalk will be more than just a walk/run for HIV/AIDS. Food, beverages, games, entertainment, health information and HIV/AIDS testing will keep attendees engaged from the early morning until sunset so after the walk, stay and enjoy!

To help you'll only need a HT with a spare set of batteries. Please contact andy@ap-testing.com, if you can assist us with this event.

Please be at Lee Park, 3333 Turtle Creek Blvd., Dallas, at 11:00 am for a race start at 1:00 pm. You can park free at 3102 Oak Ave. Lawn Garage (use Wellborne St. Entrance) or there is usually plenty of street parking for those with large antennas. Talk in 146.88 - pl 110.9, net on 442.425 + 110.0, sec. 442.500 + 110.9

Boy Scouts of America (BSA) Speakers Circuit

The plans and the scope of this event have changed. Originally we were planning on visiting several Boy Scout and/or Cub scout groups in the area, and work with the MARS group to accomplish this. Unfortunately it's one of those things where some parts "stuck" and others did not. As you read below, you'll see we will participate in Jamboree on the Air (JOTA) in October. We will, however, go "full tilt" into the BSA Radio Mentoring program, as scheduled, in November.

The plan is to offer a "mini Field Day" somewhere in the Dallas area (probably coinciding with JOTA, which is October 15th and 16th) for the kids to try out radios, see how antennas are used, and answer any questions they have on the field displays.

We will consider "relaunching" this program in 2012 and put this activity into the hands of a club officer or volunteer. In the meantime, if you know of a troop in the area which might be interested in a visit, please contact me, Tom KE5ICX@yahoo.com. The presentation can go 30 minutes to an hour - depending on if a demonstration is desired.

We'll also need people available during the week (most likely on Mondays). If you are involved in BSA, we could use your help –

The Dallas Amateur Radio Club, Inc.
PO Box 744266 Dallas, TX 75374

2011 DARC Officers and Directors:

President	Tom General - KE5ICX
Vice-President	Kevin Grantham - N5KRG
Treasurer	Tony Mendina - KE5TGM
Secretary	Larry Melby - KA5TXL
Director (12/2013)	Roger Elkington - KE5YTA
Director (12/2013)	Bill Cahill - AD8BC
Director (12/2011)	James Shugart - N5BKL
Director (12/2011)	Karl Borchardt - KE5AVE
Director (12/2012)	Scott Drummond - KE5DKV
Director (12/2012)	Randy Patterson - KE5JIT

The Dallas Amateur Radio Club, Inc., founded in 1914, is an ARRL-affiliated Special Service Club, and is a non-profit, tax-exempt 501(c)3 organization. Your donations to the DARC qualify for tax exemption.

Club meetings are always open to anyone interested in amateur radio. To contact us email: info@w5fc.org.

Our repeater Trustee is Johnny Davis K5JD. Our repeaters are located in the city of Dallas and are available for the use of all licensed amateur radio operators, subject to the repeater guidelines set forth in the official DARC website, w5fc.org.

DARC REPEATERS:

2m	146.880 out	146.280 in	110.0/110.9
1.25m	224.880 out	223.280 in	110.9/110.9
70cm	442.425 out	447.425 in	110.9/110.9

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This newsletter is composed, edited and saved as a PDF file for membership use.

either at your own event, or assisting us with presentations beginning in January/February 2012.

BSA Radio Mentoring

In November, in a separate BSA project, we are going to concentrate on a single BSA troop and help them earn their Radio Merit Badge. Dwin WD5WIN has volunteered and will be spearheading this effort. We are looking for people interested in participating. It would be a 3 week project, where Scouts will be introduced to radio operation, how it is used in Skywarn and emergencies, and how they can continue on and get their radio licenses. The three week program consist of three presentations (one presentation at each weekly meeting for three weeks). We'll be looking to radio amateurs who would like to help out for any or all of those meetings in November. There's no need to attend every meeting, but your assistance would be appreciated with organizing content, presentations, and/or assisting demonstrations.

Public Service Events

We have public service events that we need help with, so please keep these dates open:

Life Walk, 2 October, Turtle Creek and Uptown Dallas. Life Walk AIDS Arms Life Walk 2011 is a 3.2 mile fun run/walk through Dallas' scenic Turtle Creek and Uptown. Operators can pull duty as a shadow, water stop, etc., for this non-competitive event. It's an easy event to support and there's plenty to do after the walk is over. Many businesses, large and small, participate with their employees participate in the many fun festivities on this fall Saturday event.

Hope to see you at one or all of our events for September and October.

73,

Tom

Treasurer's Report for 08/2011

Dallas Amateur Radio Club, Inc.,
Treasurer's Report
Covering August 2011
(8/1/2011 through 8/31/2011)

Date Presented: 9/6/2011

Checking:	$9,359.85
Ann and Whit Griffith Fund:	$7,963.38
PayPal:	$ 0.00
Expenses for August 2011:	
Repeater site	$50.00
AT & T	$32.49
Field Day Portable Toilet Rental	$215.00
Total:	$297.49

Tony Mendina, Treasurer, DARC

Tom Thumb Good Neighbor Program Benefits the DARC

Get a Tom Thumb Reward card and designate 4056 as the code for the donation program you want Tom Thumb to donate to. The DARC will receive 1% of your purchase price as a donation from Safeway/Tom Thumb.

The club receives a check quarterly from Safeway for this. Please take the time to sign up for it.

Did You Know?

We have Public Service events we are soliciting help for September through December?

It is time to once again discuss whether or not the DARC membership would like to have a Christmas party. If so what would you like to do and where would you like to have it? Put your thoughts together and bring it up at the October General meeting.

D*Star Update

By Randy Patterson, KE5JIT, Special Projects

Earlier this year, as Special Projects leader, I solicited names of people interested in working on this project. The members I show as signed up to help on this project are: KE5JIT Randy, KE5ICX Tom, W5XJ Grant, N5BKL James, KE5KOF Andy, K5JD Johnny.

If you are not part of that group and want to be involved, please be sure and speak to me at our October meeting.

We also hope to have the site location finalized by our meeting. Stay tuned……

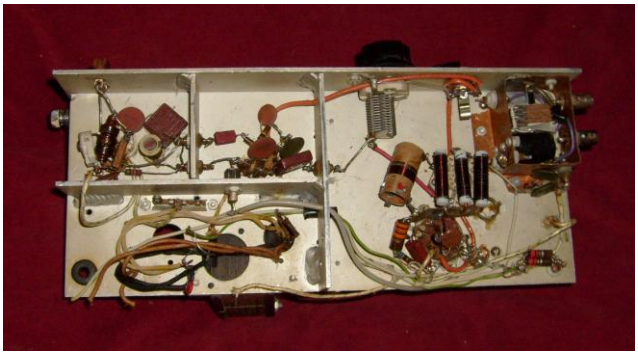
A Homebrew Transmitter

Don Murray W9VE

One time when Whit was cleaning out his shack he gave me this partially built homebrew transmitter. He had started it in the late 1950's or early '60's but put aside for some reason. Maybe because this was an AM/CW transmitter and single sideband was becoming popular then. It looks like he might have planned it for mobile operation.

What you see here started out as a case from a junked instrument. The actual transmitter was made from sheet of 1/8" aluminum, some tube sockets, resistors, and other parts. But before touching a tool Whit probably examined his "junk box" to pick out parts he might use. With the parts selected, he must have done some engineering trade-offs then planned some more. From his sketches he marked and cut the metal, welded the chassis, punched and drilled the holes, painted the front panel and applied the scales and nomenclature. Knobs, tubes, resistors, and other hardware were purchased off-the-shelf.

Not really a beautiful construction, it was intended as an experiment. Any equipment Whit built for long-term use looked commercially made. Looking at the bottom of the chassis you can see the welded partitions, lots of hand-wound coils and electronic parts. If you have ever built a transmitter "from scratch" you will see deeper into the elegant planning and design that had to be in place before the metal could be cut and the chassis welded together. From that perspective it really is a thing of beauty.



Looking at the tube-side of the chassis you can see the final amplifier tube, a 5933. That is the MIL equivalent of an 807. Note the right angle drive on the coil switch, and the extremely short leads. More evidence of well-thought-out design and execution.

Very little effort is needed to get this transmitter on the air, at least CW, just some power supply grunt work. To honor Whit this rig will be finished and tested, then brought to Field Day 2012 and fired up for any CW operator to use in that exercise. That way the Old Master will be there again, if only in spirit.

Minutes of the DARC Board Meeting of 06 September 2011

The Board met on Tuesday Sept. 6th at 6:05pm, the following members were present.

Present	
President	Tom - KE5ICX
Vice-President	Kevin - N5KRG
Secretary	Larry - KA5TXL
Treasurer	Tony - KE5TGM
Director (12/2013)	Roger – KE5YTA
Director (12/2013)	Bill – AD8BC
Director (12/2011)	James – N5BKL
Director (12/2012)	Scott – KE5DKV
Director (12/2012)	Randy – KE5JIT
Absent	
Director (12/2011)	Bob – KE5PHX

- Minutes of the Aug board meeting were approved
- Treasurer's report was approved

- Tom pointed out that Bob Kelly KE5PHX has missed 4 club meetings, which according to the bylaws opens the remaining three months of his term. Karl KE5AVE has agreed to serve the remainder of Bob's term if elected by the membership.
- Randy KE5JIT held his D-Star report for the general meeting
- Working with the DPD is still uncertain, waiting on follow-up from DPD.
- Next Tanners play date TBD
  The nomination committee will be composed of Randy KE5JIT, James N5BKL and one other
- Public Service – Andy needs additional operators for both this weekend's Heart Walk and next month's Life Walk
- Bill is continuing to follow up on grants for the 2 meter D-Star portion of the D-Star system
- BSA more to come
- James is following up on re-skinning the generator trailer
- No Committee Reports
- Meeting adjourned at 6:38 pm

October Area Events

We have scanned WebPages from our sister Ham Clubs to compile this list. Should you wish to add to this month, send an email to ke5jit@yahoo.com
Needs updated

- **10/02 – Life Walk** – See Presidents Corner
- **10/04** – **Tuesday** – DARC Monthly Club Meeting – Brookhaven Church – 13000 Marsh Lane – Dallas – Board Mtg. 1800 hours; General Mtg. 1900 hours
- 10/08 – DCARA – North Texas Bicycle Rally 8am to 2pm
- **10/15** – JOTA
- **10/29** – DCARA – Komen Ride for the Cure – LBJ Grasslands
- **10/30** – **Sunday** – IARC Monthly Club Fox Hunt – 1:30 p.m.
- **Weekly – Saturday –** TECH NET – DARC – 146.880, PL 110.9 – 1900 – 2000 hours. Back-up repeater 442.425, PL 110.9
- **Weekly** – **Monday – 2000** – DCARA – Except 4th Monday. Information/Training Net – Freq. 146.920 PL 110.9
- **Weekly** – **Wednesday** – 0830 – IARC – The Breakfast Club – McDonald's, 2410 N Story Rd, Irving (Between 183 & Rochelle)
- **Weekly** – **Thursday** – 11:00 a.m. - Crony Lunch – Garland ARC –Furr's Cafeteria – 350 S Plano Rd. – Richardson
- **Weekly** – **Saturday** – 0700 – 1000 hours – MARS – Hams & Eggs – What-A Burger – NE Corner of Old Denton & The Bush

DARC Upcoming Events

DARC Tech Net On the Air – 146.880, PL 110.9
Back up frequency 442.425 PL 110.9
Every Saturday 1900 – 2000 hours

DARC Meeting on the Air - Sunday Oct 2
146.88 MHz 7:00 PM - 1st & 3rd Sundays
All hams are welcome to join this get-together.

Dallas RACES Training Net - Sunday Oct 2
146.88 MHz 8:00 PM - 1st & 3rd Sundays
Everyone is invited to listen, but only RACES appointed stations are permitted to participate.

DARC Board Meeting - Tuesday Oct 4
Brookhaven Church Business 6:00 PM
DARC board meetings are open to anyone who wishes to attend, visit, and observe.

DARC Club Meeting - Tuesday Oct 4
Burger House (Informal Meet Up) Dinner 6:00 PM
Brookhaven Church Business 7:00 PM

DARC EmComm Net – Non-denominational Emergency Preparedness Discussion. Saturday evening at 8:00 PM after DARC 1st Tuesday meeting on 146.880, PL 110.9

NTS DFW Early Traffic Net - Every Day
146.88 MHz 6:30 PM - every evening
All hams are invited to this traffic and training net.

Minutes of the DARC Regular Club Meeting 06 September 2011

The club met on Tuesday Sept 6th at 7:01pm, the following officers and board members where present.

President Tom General, KC5ICX
Vice – President Kevin Grantham, N5KRG
Secretary Larry Melby, KA5TXL
Treasurer Tony Medina, KE5TGM
Director (12/2011) James Shugart, N5BKL
Director (12/2012) Scott Drummond, KE5DKV
Director (12/2012) Randy Patterson, KE5JIT
Director (12/2013) Bill Cahill, AD8BC
Director (12/2013) Roger Elkington KE5YTA

Absent were
Director (12/2011) Bob Kelly KE5PHX

- The pledge was recited
- The following visitors were recognized
  - John KF5LXP
    Julie Bently, no call
    Pat N5NPL
    Mark AJ5H
    Gene KZ5V
    Bob N5NT
    Vince KF5MEJ
    Bill NX5R

- The program was cancelled at the last minute
- Walt Mayfield KE5SOO on behalf of Dr. David Woolweaver K5RAV presented two certificates to the DARC for the members support in hosting the Wouff Houng Ceremony and for its part in putting W1AW/5 on the air during the ARRL National Convention during HamCom this year
- Karl KE5AVE was voted in by the membership to fill the remaining 3 months of time that Bob Kelly had in his term.
- Randy gave an update on the status of D*Star; the state has accepted the environmental impact. The state should release funds within the next two weeks, so that the city may purchase the equipment. This project will require the support of many members of the club to install, test and train on the workings of D-Star.
- Andy reported he needed additional volunteers for both this weekend's Heart Walk and next month's (Oct 2nd) Life Walk
- Bill discussed the next antenna building project, date will be in November
- Dale requested volunteers to help with the Highland Village Police Bike Rodeo to be held on Sept 17th.
- The possibility of working with the DPD is still stalled due to a lack of follow-up by the DPD
- There will be a meeting with BSA troop leaders the 3rd week in September. The club will make its pitch about Ham Radio to see which troops might be interested. JOTA is the 3rd week in October and there are still plans to work with one troop for their radio merit badge in November.
- The Treasurer's report was accepted.
- John announced that September is National preparedness month
- Andy talked about the clubs EmComm training net, lots of ideas were discussed
- Tom announced that the nominating committee had been formed to recruit a slate of candidates for election. The members are Randy KE5JIT, James N5BKL, and Bob K5CRX
- These individuals were voted in as members of the club
  Michael KI6LZO
  Mark KG5A
  John KF5LXP
- The meeting adjourned at 9:15 pm

CSMA – Carrier sense multiple access. A channel access arbitration scheme in which packet-radio stations listen on a channel for the presence of a carrier before transmitting a frame.

QRT

What communications are permissible in RACES?

A. Any type of communications when there is no emergency
B. Any Amateur Radio Emergency Service communications
C. Authorized civil defense emergency communications affecting the immediate safety of life and property
D. National defense and security communications authorized by the President

Answer: C
For communications concerning national defense and security, or immediate safety of life and property, your area civil defense organization may decide on its own when RACES operation begins. They may also allow specific periods for testing and drills [97.407] www.emcomm.org/em

Bob's Take on SWR

Bob - K5CRX

Why this discussion anyway – why should I care? The point is "to have an efficient antenna system; one that radiates well."

What is SWR? What is it used for?
SWR stands for standing wave ratio. SWR is computed from the ratio between an RF signal going in the forward direction (toward antenna) and the RF signal going in the reverse, or reflected direction (toward transmitter) on a transmission line. Any discontinuity or impedance mismatch along the line or at the ends of the line will cause a portion (at least) of the RF signal to reverse direction. The SWR meter detects the magnitude of that reflected signal in relation to the magnitude of the forward signal. From that information, certain conclusions are then drawn about the quality of the antenna or antenna system. These conclusions rest solely with YOU, the operator. You will also hear the term VSWR, which stands for voltage standing wave ratio. SWR and VSWR is the same thing.

Two methods of calculating SWR: by voltage and by power:

Using voltage to calculate SWR:

$$VSWR = \frac{\text{Forward Voltage} + \text{Reflected Voltage}}{\text{Forward Voltage} - \text{Reflected Voltage}}$$

If Forward Voltage is 20 volts and Reflected Voltage is 0 volts, then we get:

$$VSWR = \frac{20 + 0}{20 - 0} = \frac{20}{20} = 1$$

Or if using power to calculate SWR:

$$SWR = \frac{\text{SqRt of Pf} + \text{SqRt of Pr}}{\text{SqRt of Pf} - \text{SqRt of Pr}}$$

$$SWR = \frac{\text{SqRt of 100} + \text{SqRt of 4}}{\text{SqRt of 100} - \text{SqRt of 4}} = \frac{10+2}{10-2} = \frac{12}{8} = 1.5$$

SqRt – Square Root
Pf = Power Forward
Pr = Power Reflected

How is SWR Measured?
The most common and cheapest way to measure SWR is with an SWR bridge (SWR meter). Inside there are diodes and other circuitry that allow a meter needle to move. There is an adjustment to calibrate the meter to provide a fairly accurate SWR indication.
A second type of SWR meter uses a meter that is actually two meters in one. One reads forward power, the other – reflected. So we get a 100 watt forward power and 4 watt reflected power for example. To get the SWR, we must

do a bit of math – but the manufacturers of the dual meters provide a scale (called a nomograph) that indicated SWR value at the point where the needles cross. This obviously requires a "calibrated eyeball" to read this scale, but it is accurate enough for most HAM applications.
The famous Bird wattmeter uses a "slug" calibrated to provide a fairly accurate reading of forward power. The slug is rotated 180 degrees to provide the reflected power. You're on your own to calculate SWR or use a nomograph to provide a reading.

What Does a Low or High SWR Mean?
A low SWR refers to a large forward RF signal and a small reflected signal. Since the reflected voltage can never be less than zero, the very lowest value possible is 1, or 1:1.

A high SWR refers to a large reflected signal. For example, a meter reading of 9.5 indicates an SWR of 9.5 to 1.

Incidentally, you may note that there are not many numbers on the meter after about 3 or 5. That's because SWR values get very large very quickly. It is difficult to tell the difference between an SWR of 9.5 and 35, for example.

Not necessarily. The interpretation of good, bad, or indifferent SWR depends upon the situation! Be wary of statements like: "A good SWR reading means my antenna is working properly," or "A bad SWR reading means there's a problem with my coax or antenna."

Examples of good high SWR and bad low SWR

First – what is a dummy load and why do I need one?

A dummy load is a non-reactive resistor of generally 50 or 52 ohms with a fairly high power rating. It accepts the RF power from a transmitter to allow measuring power and other parameters without actually broadcasting the test signal on the air.

A user has an antenna system fed with 23 year-old coax cable. The SWR meter always shows a very low SWR. "If it ain't broke, don't fix it," some say. The problem is that the coax has become so lossy over time that the antenna could be disconnected and he would *still* get an SWR reading of 1.5 to 1! But how could this be? Remember, the SWR meter is dumb; it can't interpret what is causing it to read the way it does. The SWR is low because the lossy coax cable absorbs the forward RF energy going to the antenna, and also absorbs any reflected power (if there is any left to be reflected) from the antenna going back toward the transmitter. OF *course* the SWR is low! A good solution would be for this user to periodically measure the power at each end of the coax cable with a dummy load attached. Without changing the transmitter power, the difference in the readings is the amount of power lost through the coax. ***Low SWR does not guarantee a better signal.***

Baluns are great devices; they make everything okay. In fact, some hams have been able to reduce the SWR of their dipole antennas by simply inserting a 1 to 1 balun at the antenna terminals. The SWR doesn't rise at the band edges like it did when the balun wasn't there! OOPS, a red light should go on here, but normally hams will just be pleasantly surprised at the quality of that balun and brag about it to their buddies. What they should be doing is throwing the balun in the trash and replacing it with one that works. Here's what is happening: The balun was made of a ferrite core that saturated when power was applied. The core material provided significant power loss, turning that precious RF into heat before it even got to the antenna! ***Low SWR does not guarantee a better signal.***

Another user has a multiband HF antenna system fed with 100 feet of Belden 9913 coax cable. The other end of the coax is connected to a tuner, SWR bridge, and then to a transceiver. This user operates 80 through 10 meters with this setup. He adjusts the tuner for an SWR reading that shows a good match to the rig. But - for various bands, isn't there still a very high

SWR (mismatch) between the **output** of the tuner and the antenna system? Yes, although the radio sees a good match. Coaxial cable losses increase as the SWR increases. From the ARRL handbook, an SWR of 7 to 1 between the tuner and the antenna creates 1.3 dB of reflection loss in the line. A receiving ham will see a difference of a quarter of an S unit due to the TINY losses in the coax cable from a 7 to 1 SWR. One can't hear the signal strength difference of a quarter of an S unit. ***High SWR does not mean a worse signal.***

Examples of good low SWR and bad high SWR

Sample station with 20 meter dipole:

Frequency SWR

14.01 MHz 2.3
14.15 MHz 1.2
14.34 MHz 2.l

This is a reasonable characteristic and is an indication that things are as they should be. But two years after it was installed, the SWR at 14.15 MHz increased to 3.4. This high SWR is bad and is an indication of trouble. This station owner will need to do some evaluation of the coaxial connectors in the shack, at the antenna, the coax line itself, and finally the antenna.

Summary:

An SWR meter and a dummy load can be handy tools for the average amateur radio operator. Used properly, they can help prevent antenna system problems and solve problems when they occur. The point is *not* "to have a low SWR reading." The point is "to have an efficient antenna system; one that radiates well."

Credit to:
Portions of this article originally appeared in the March, 1994, issue of "Short Skip", the Newsletter of the Sonoma County Radio Amateurs, Inc., Article by WB6FRZ.